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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,738	10/22/2003	Dan Veniamin Nicolau	Q78126	4321

7590 10/04/2004

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Washington, DC 20037-3213

EXAMINER
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LUM, LEON YUN BON

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/689,738

**Applicant(s)**

NICOLAU ET AL.

**Examiner**

Leon Y Lum

**Art Unit**

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-54 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-23 and 39-42, drawn to a structure, classified in class 422, subclass 68.1.
  - II. Claims 24-38, drawn to a method of fabricating a structure, classified in class 436, subclass 524.
  - III. Claims 43-46, drawn to a method of preparing an array, classified in class 435, subclass 176.
  - IV. Claims 47-54, drawn to an assay method, classified in class 435, subclass 7.1.
2. The inventions are distinct, each from the other because of the following reasons:
3. Inventions I and II-III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by the materially different process of dip-pen lithography, wherein the second layer is deposited in a

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predetermined onto the first layer, and wherein the biomolecules can be deposited onto the first layer by the same means.

4. Inventions I and IV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice the materially different process of liquid filtration, by placing the apparatus in a flow cell, selectively absorbing and retaining biomolecules from a liquid sample, and applying heat to the apparatus to inactivate and destroy the said biomolecules.

5. Inventions II and III are unrelated, independent, and distinct inventions. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation, different functions, and different effects. Group II is a method that includes the step of laser ablating at least a portion of the second layer to expose a surface of the first layer to form at least one profiled feature, which is a step that is not in Group III. Group III includes the step of contacting at least one profiled feature with a biomolecule, which is not a step in Group II.

Therefore, Groups II and III have different modes of operation, different functions, and different effects that distinguish them as unrelated, independent, and distinct inventions.

6. Inventions II and IV are unrelated, independent, and distinct inventions.

Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation, different functions, and different effects. Group II is a method that includes the step of laser ablating at least a portion of the second layer to expose a surface of the first layer to form at least one profiled feature, which is a step that is not in Group IV. Group IV includes the step of detecting binding of the analyte to the adsorbed biomolecule, which is not a step in Group II.

Therefore, Groups II and IV have different modes of operation, different functions, and different effects that distinguish them as unrelated, independent, and distinct inventions.

7. Inventions III and IV are unrelated, independent, and distinct inventions.

Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation, different functions, and different effects. Group III

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includes the step of contacting at least one profiled feature with a biomolecule, which is not a step in Group IV. Group IV includes the step of detecting binding of the analyte to the adsorbed biomolecule, which is not a step in Group III.

Therefore, Groups III and IV have different modes of operation, different functions, and different effects that distinguish them as unrelated, independent, and distinct inventions.

8. Because these inventions are distinct for the reasons given above and the search required for each of Groups I-IV is not required for the other Groups, restriction for examination purposes as indicated is proper. Group I requires searching in databases specific for devices and apparatuses, which is not required for Groups II-IV. Groups II requires a search for the method of laser ablation, which is not a search required for Groups I and III-IV. Group III requires a search in databases for contacting a surface with a solution of biomolecule to obtain an array, which is not a search required for Groups I-II and IV. Group IV requires searching for the detecting of analyte binding, which is not a search required for Groups I-III.

9. In the event that Applicants elect Group II, a species election to elect one of the following blocking layers must also be made:

- a. Inert polymer, claim 31
- b. Self Assembled Monolayer, claim 32
- c. Multilayer thin film, claim 33

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d. Inert protein, claim 34

10. Currently in Group II, claims 21-30 and 35-38 are generic. Claims 31-34 are subject to species election.

For example, if Applicants elect Group II(a), claims 21-31 and 35-38 comprise the election.

11. A telephone call was made to Bruce Kramer on 21 September 2004 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

12. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Y Lum whose telephone number is (571) 272-2878. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LYL



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07/30/07